



Ranger School Preparation Progressive Overload and Nutrition Information

1. Progressive Overload
2. Injury prevention
 - a. Plantar Fasciitis
 - b. Shin Splints
 - c. IT Band Syndrome
 - d. Jumpers Knee
 - e. Posture and Shoulder Health
 - f. Stretching
3. Nutrition
 - a. Calorie intake recommendation
 - b. Protein intake/lb of body weight
 - c. Weight gain & weight loss
 - d. Hydration
 - e. Supplements



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Progressive Overload and Nutrition Information

1. Progressive Overload

- Continually increasing the demands on the musculoskeletal system in order to make gains in muscle size, strength and endurance
 - Start with a weight that is manageable with perfect form for the prescribed sets and reps
 - Methods of progressive overload: increase weight, decrease rest time, increase repetitions, etc- ---pick one method per workout
 - Muscles/Ligaments/Tendons will not get stronger without progressive overload

2. Injury Recognition and Prevention

- Length of healing process varies on the person and type/severity of injury
- Three Phases of Healing
 - Inflammation = 4-6 days
 - Swelling, pain,
 - Proliferation = 4-24 days
 - Swelling goes down, tissues start to repair themselves
 - Remodeling = 21 days – 2 years
 - Structures strengthen
 - Time varies on injury
- Plantar Fasciitis
 - Pain along arch of foot and on the heel
 - Most painful = First steps in the morning, running/walking hills, raising up on the toes
 - Cause = Tight calf muscle and inflamed tissue on bottom of foot
 - Treatment = Stretch calf muscles, roll bottom of foot on ball, strengthen ankle muscles
- Shin Splints
 - Pain along shin bone, usually worsens with activity
 - Cause = Tight calf muscle, little/no foot arch, poor shoe arch support, weak lower leg/ankle muscles
 - Treatment = Stretch calf muscle, strengthen ankle muscles, obtain shoe arch support
- IT Band Syndrome
 - Pain on outside of hip or outside of knee
 - Cause = Tight and inflamed IT Band
 - Treatment = Stretch IT Band, decrease inflammation in sore areas
- Jumpers Knee
 - Pain along inside of knee or underneath the patella
 - Cause = Improper knee tracking when running or lifting
 - Treatment = Strengthen Glute Medius muscle and stretch IT Band



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- Bicep Tendonitis
 - Pain on front portion of shoulder, difficulty raising arm fully upright or to the side, pain with pushups
 - Cause = Weak rotator cuff muscles and inflammation of bicep tendon
 - Treatment = Strengthen rotator cuff muscles, rest to decrease bicep tendon inflammation
- Posture
 - Shoulders in line with ears
 - Chest up
 - Low back not slouched but not overly arched



3. Nutrition

- Smaller, more frequent meals throughout the day
- Recommended Intake:
 - 45-65% Carbs
 - 10-35% Protein
 - 20-35% Fats
- Snacking between meals
 - Nuts, lean protein sources, low fat, high fiber
- Carbs
 - Fuel the body, provide energy, allows protein to access cells to help repair and build muscle
 - Complex Carbs between workouts – brown rice, oatmeal, beans
 - Simple Carbs directly before and after workout – white rice, fruit
- Green vegetables
 - Broccoli, Spinach, Lettuce, Avocado, etc
- Protein Recommendations
 - 1g-1.5g/lb of body weight per day
 - Lean meats, yogurt, milk, eggs, etc



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- Protein power supplements are not as effective as natural sources but are helpful for reaching daily protein goal. Whey protein is optimal, intake 20 grams within 30 minutes of workout completion.
- Fats
 - Fats are necessary for hormone production and healthy activity, do not avoid healthy fats because you think it will make you fat.
 - Fish, milk, nuts
- Nutrient Timing
 - 200-300cal before workout—mostly carbs and a little protein
 - After workout – 3:1 ratio of carbs to protein within 30 min of completion
 - Prevents tissue breakdown, reduces cortisol (stress hormone) and begins rebuilding muscle
- Hydration
 - Urine should be pale yellow or clear
- Supplements
 - Protein Powder—See above
 - BCAA's
 - Multivitamin
 - Fish Oil
 - Remember, there are no pre-workout/post-workout formulas at Ranger School. Good natural nutrition should be your foundation, not supplements.